

### **REMARKS**

Applicant thanks the Examiner for his thoughtful review of the application.

Claims 21-23 and 25-31 are in the application. Claims 23, 29 and 31 were objected to under 37 C.F.R. 1.75(c) as being in improper dependent form. All claims were rejected under 35 U.S.C. 112, second paragraph as omitting essential steps and as indefinite. Finally, all claims were rejected under 35 U.S.C. §103(a) as obvious over Benaroch et al., "An Intelligent Assistant for Financial Hedging," IEEE, 1991, pp. 168-174 in view of Moore et al., U.S. Pat No. 5,446,885.

In response, Applicant amends claims 21-23 and 25-29 and cancels claims 30-31 without prejudice. The cancellation of claims 30 and 31 is "without prejudice" because the limitations of those claims have been effectively incorporated into claim 21 as amended. Accordingly, the objections and rejections set forth in the Office Action, insofar as directed to claims 30-31, should be considered moot.

The amendments made herein are after final rejection and fall under 37 CFR 1.116(b). The amendments that touch upon the merits (under subsection (3) of 37 CFR 1.116(b)) were those made to address the rejection under 35 U.S.C. 112, second paragraph, by specifying additional delimiting process steps in response to the concerns raised in the action. Said amendments were necessary in order to address this ground of rejection. As the action now being responded to was the first action raising these issues, there was no occasion to have made the referenced amendments earlier.

#### **Objections concerning dependent claim form under 37 C.F.R. 1.75(c)**

In claim 23, in order to provide a proper dependency of claim 23 from the wording "processor" has been changed to "processing object" to track claim 21. The Examiner also raises here a question of whether the processor is implemented in hardware or software. The examples in the specification are all processors implemented in software. However, since it is well known that processors equivalent to software processors can be implemented in hardware by persons of skill in the art, the claim is intended to cover any processing object within the express claim limitations, whether implemented in software or in hardware.

Claim 29 has also been reworded to refer to “processing objects” rather than “processors”, thereby addressing this objection.

Rejections under 35 U.S.C. §112

Claim 21 was rejected for omitting the steps that are employed by the processing object which defines the processing to be performed for a plurality of event types. This has been addressed by adding steps specifying that financial event templates are provided, and that in each case in which a template variable refers to another template component, a processor-independent interface is provided, and the further step of building the event representation by selecting financial events from the templates. Applicant believes the amendment spells out sufficient additional delimiting steps to meet this ground of rejection.

Claim 22 and 23 were rejected for similar reasons. However, since claims 22 and 23 are dependent from claim 21, they incorporate the same steps as claim 21, including the specific steps added to claim 21 concerning event generation from financial templates. No additional steps are necessary in claim 23, which concerns how the event representation itself is generated. That is because the same processor-independent interfaces already recited in claim 21 are used to allow event generation in claim 23 to proceed in a processor-independent manner.

Claims 21-23 and 25-29 were also rejected as indefinite for failing to adequately state positive method steps. Applicant believes that the specific steps added to claim 21 addresses and overcomes this ground of rejection.

Similarly, the rejection of claims 21-23 and 25-29 under 35 U.S.C. §101 for claiming a use without stating process steps is similarly believed to be overcome by the specific steps added to claim 21 concerning event generation from financial templates.

Claim 21 was further rejected as indistinct because the preamble recites a method for processing “financial instruments” and the body addresses steps performed on an individual instrument. This was addressed by making clear that the recited steps are performed on “each” instrument.

Claim 29 has been reworded to eliminate the “may” and “type of processing” constructions and to make the wording more definite.

The wording “said instrument” in claim 21 has been changed to “each said instrument”, thereby addressing the rejection of claims 21-23 and 25-30 for lack of sufficient antecedent basis, in that it is now clear that “each said instruments” refers to one of the plurality of “financial instruments” that the method of claims 21-23 and 25-29 are capable of processing.

Rejections under 35 U.S.C. §103(a)

35 U.S.C. 103(a) provides in pertinent part:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter **as a whole** would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. [Emphasis added.]

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. Furthermore, “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. , 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). As the PTO recognizes in MPEP 2142:

... The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. . .

According to *KSR*, the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966) remain the basis for determining obviousness under 35 U.S.C. Sec. 103. The factual inquiries set out in *Graham* are as follows:

- (a) Determining the scope and content of the prior art;
- (b) Ascertaining the differences between the claimed invention and the prior art; and
- (c) Resolving the level of ordinary skill in the pertinent art.

Moreover, it is made clear in MPEP 2141.02(VI) that “[a] prior art reference must be read in its entirety, i.e., as a whole. . .”.[emphasis in original.]

MPEP 2141(IV) states that “[o]nce Office personnel have established the Graham factual findings and concluded that the claimed invention would have been obvious, the burden then shifts to the applicant to (A) show that the Office erred in these findings, or (B) provide other evidence to show that the claimed subject matter would have been nonobvious.”

The rejection of claims 21-23 and 25-31 under 35 U.S.C. 103(a) was based on Benaroch et al. in view of Moore et al. The Examiner noted that Benaroch et al. failed to disclose a key limitation of claim 21, whereby the instrument’s representation “is specified independently from said at least one processing object.” The Examiner relied on Moore et al. with respect to this feature. Applicant respectfully submits, however, that the Examiner was in error in characterizing Moore et al., as addressing the “specified independently” limitation found not to be taught by Benaroch et al., and thus was in error in “[d]etermining the scope and content of the prior art.”

Applicant submits that to meet the limitations of claim 21, it is not sufficient, as the Examiner recites, that “Moore suggests an expert system that [has] objects/rules that are separated from the application” (Office Action at p. 6). The mere “separation” of the “stored processing rules” of Moore et al., and its respective “applications” falls short of the requirement the “objects/rules” must be **specified independently** from, i.e., specified without knowledge of, the application.

The present specification states that the “independently” limitation means that “financial instruments are modeled independently of their valuation methodologies.” Specification as published, at par. 0013. Similarly, at par. 0067, the specification states: “processing is independent from the framework for definition of financial instruments. The term ‘processing’ is used to cover any and all operations that can be applied to a financial instrument and its events.” Similarly, the specification states at par. 0249 that “a processor does not require, and is not permitted to have, any *a priori* knowledge of the structure of a given financial instrument.” In sum, the specification makes clear that to say (as claim 21 recites) that instrument representation is specified “independently” from the speci-

fication of the processing object means that each can be specified without knowledge of the other.

Moore et al. does not meet the “specified independently” limitation of claim 21. In this regard, setting up the “stored processing rules” of Moore et al. requires that the user must repeatedly specify “object data required to support rule execution, behavior rule monitoring, exposure and risk calculations, reporting and query.” The specific requirement that the user must pre-specify “object data” in connection with the system’s processing rules is repeated no less than five (5) times in Moore et al. (see col. 18, lines 18-23; col. 19, line 1; col. 19, line 51; col. 21, line 1 and col. 22, line 31). By requiring that object data be specified as part of the rule execution definition, Moore et al. teaches a process that is directly at odds with the “specified independently” limitation of claim 21, and which does not conform to that limitation. Indeed, when read as a whole, Moore et al. teaches to the contrary of the “specified independently” limitation of claim 21.

Applicant respectfully submits that when read thoroughly in their entirety, the combination of Benaroch et al. and Moore et al. fails to teach, either alone or in combination, all of the limitations of claim 21. However, the Examiner’s rationale for rejection, was based on the erroneous determination that Moore et al. did teach the “specified independently” limitation acknowledged to have been missing from Benaroch et al. Because of this error in factual findings, the Examiner has failed to provide a sufficient reasoned basis for why, given a proper understanding of the scope of Benaroch et al. and Moore et al., it would have been obvious for a person of ordinary skill in the art to have arrived at the features recited in claim 21. Applicant respectfully submits that these two applied references do not provide a sufficient basis for an obviousness determination because neither provides a teaching whereby a person of ordinary skill in the art would have been prompted or motivated to impose a processing framework, as reflected in claim 21 (and indeed in each of the claims in the application), wherein a financial instrument’s structure and the processing objects that will act upon that structure, may be specified independently from one another, that is, each without knowledge of the other.

Applicant's argument stated above applies to claim 21 as *previously* written (which already recited that the instrument specification "is specified independently from said at least one processing object"), without even reaching the additional level of detail provided by the present amendments to claim 21. Applicant submits that when the additional limitations added by the present amendment are further considered, it should be all the more clear that neither Benaroch et al. nor Moore et al., nor any of the other references cited in the history of this case, alone or in combination, teach a process in which financial instruments are processed by processing objects in a manner that permits the instruments and processors to be specified independently, wherein the independence of the processing objects and financial instrument objects is achieved through the use of templates for the financial instruments having components in which variables within a given component that reference other components also have processor-independent interfaces to the other components.

Claims 22-23 and 25-29 depend from claim 21 and incorporate each and every one of its limitations. Claims 22-23 and 25-29 are therefore patentable if, as argued above, claim 21 is patentable (see MPEP 2143.03). Moreover, claims 23, 26 and 28 are patentable for the further reason that they each recite that the same "processor independent" framework as in claim 21 is applied when the "processing" involved is the generation of the intermediate "event" representation of the instrument by an "event extraction" processing object. I.e., the same processing features as recited in claim 21 (including the "specified independently" feature) are used (in accordance with any of claims 23, 26 and 28) to generate the "event representation" of the instrument that is acted upon in claim 21. Applicant is unaware of any prior art that teaches such a process. As noted above, claims 30 and 31 have been cancelled without prejudice, and the rejections of those claims are therefore moot.

Accordingly, Applicant requests that the present rejection under 35 U.S.C. 103(a) of claim 21, and of each of claims 22-23 and 25-29, be reconsidered and withdrawn.

**CONCLUSION**

All matters set forth in the Office Action have been addressed. Applicant respectfully requests that the claim amendments set forth herein be entered. Applicant further requests favorable reconsideration in light of the amendments, and allowance.

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Respectfully submitted,

/Ronald Abramson #34,762/  
Ronald Abramson  
Registration No. 34,762  
Attorney for Applicant

HUGHES HUBBARD & REED LLP  
One Battery Park Plaza  
New York, New York 10004-1482  
(212) 837-6404